

Independent claim 38 is a method claim that includes the limitation “resiliently coupling the measurement mass to the housing using a resilient folded beam.” The DeVolk patent describes no such folded beam. The present application clearly describes and shows, e.g. Figure 15, a folded beam structure as including “an inner foot **1520** coupled to the mass **1505** and an outer foot **1525** coupled to the support **1510**. Extending from the feet **1520** and **1525** are corresponding inner and outer legs, **1530** and **1535**, that are joined by a head **1540**.” The structure of a folded beam, therefore, provides a pair of legs that fold back over each other using the head as a connecting point. The L-shaped spring legs taught by Devolk do not fold back as a folded beam.

Since, Devolk does not teach a folded beam structure, it does not teach each and every limitation of independent claim 43. Claim 39 depends from claim 38 and thus includes the above limitation of using a folded beam structure. Applicant respectfully submits that Devolk does not anticipate independent claim 38 or dependent claim 39.

### **35 U.S.C. § 103**

Claims 42-43 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 5,852,242 to Devolk et al. Applicant respectfully traverses.

In rejecting the claims, the Examiner states that the rejected claims are obvious since Applicant has not disclosed that the straight beam solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the L-shaped spring of Devolk. Applicant draws attention to the Background of the present application. Applicant specifically states that “accelerometers that use an L-shaped

resilient member to support a mass typically have difficulty providing a sensor having acceptable closed-loop stability and structural reliability.” The problem statement is immediately followed by “the present invention is directed to overcoming one or more of the limitations of the existing accelerometers.” Then at page 47, lines 8-9, the specification states, “the straight beams **2015** provide enhanced lateral shock tolerance, vertical compliancy, and high lateral stiffness.” Therefore, Applicant has disclosed the advantages of the straight beam embodiment of the present invention and has particularly pointed out the advantages over an L-shaped spring. Consequently, Applicant respectfully submits that independent claim 42 and dependent claim 43 are not obvious in view of Devolk.

Claims 40-41 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 5,852,242 to Devolk et al. in view of U.S. Patent 5,412,987 to Bergstrom et al. Applicant respectfully traverses.

Independent claim 40 is a method claim that includes the limitation “resiliently coupling the measurement mass to the housing using a resilient S-shaped beam.” Neither the DeVolk patent nor the Bergstrom patent describes such an S-shaped beam. The Examiner concludes that Bergstrom teaches an S-shaped beam, because the reference states that the limbs taught assume an S-shape under forces due to acceleration. Applicant respectfully notes that the statement cited by the Examiner also clearly states that the limb is **deformed** to assume such an S-shape. The reference clearly does not teach a spring that manufactured in the form of an S-shape. Applicant respectfully submits that one skilled in the art attempting to solve the problems associated with closed-loop stability and structural reliability would not look to Bergstrom as teaching an S-shaped

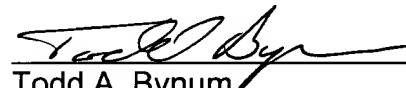
spring for the purpose of addressing the stated problems, because the Bergstrom statement relating to a deformed limb that assumed the shape of an S is an operational descriptive statement. The advantages of a manufactured S-shaped spring would require insight, such as that provided by Applicant's disclosure, that such an S-shaped spring would provide advantages relating to closed-loop stability and structural reliability. To read Bergstrom in this manner would require unacceptable hindsight along with the benefit of Applicants disclosure. Consequently, Applicant respectfully submits that independent claim 40 and dependent claim 41 are not obvious over Devolk and Bergstrom.

### **CONCLUSION**

For all the reasons stated above, Applicant respectfully submits that all pending claims are allowable over the art of record. A check in the amount of \$110 is enclosed for the extension of time request for filing this response. Please charge any additional required fee for this response or credit any overpayment to the **Deposit Account No.13-0010 (IO-1016-US)** .

Respectfully submitted,

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